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ABSTRACT OF THE DISCLOSURE

An implantable medical device communication system communicates information between an implantable medical device and at least one slave device by way of a two-wire bus. Slave devices may include remote sensors, actuators and other implantable medical devices. The implantable medical device includes a communication unit to output commands and power pulses, and receive information from the slave devices over the two-wire bus. The implantable medical device and slaves communicate over the bus by selectively changing one of the lines of the bus between a first and second voltage, the second voltage substantially equal to a reference voltage of the second line, e.g., zero volts. In some embodiments, the power pulses take the form of bipolar pulse pairs. The slave device includes a recovery unit to recover power from the power pulses.